

Application
for
United States Patent

To all whom it may concern:

Be it known that,

Pauline H. Baker, Anne V. Russell, and Mark A. Clark

have invented certain new and useful improvements in

CONFLICT ASSESSMENT SYSTEM TOOL

of which the following is a full, clear and exact description:

CONFLICT ASSESSMENT SYSTEM TOOL

COPYRIGHT PROTECTION

This disclosure contains material which is subject to copyright protection. The copyright owner has no objection to the reproduction by anyone of the patent document or the patent disclosure as it appears in the Patent and Trademark Office patent file or records, but otherwise reserves all copyright rights. The following notice applies to the software and data as described below and in the drawings hereto: Copyright 2001 The Fund for Peace, All rights reserved.

FIELD OF THE INVENTION

The present invention relates generally to data assessing processes. More particularly, the present invention relates to a data assessing process and method of predetermining possible areas or regions of conflict throughout the world.

BACKGROUND OF THE INVENTION

Since the end of the Cold War, according to the US Department of State, approximately 100 armed conflicts have erupted worldwide, 35 of which stem from internal disputes based on identity. Collectively, such crises have come to be described generally as "ethnic conflict," a term that refers to inter-group violence based on language, religion, race, ethnicity, sect, class, caste, clan or some combination of these. Such identity wars collectively may be referred to as internal conflict.

While weapons proliferation and terrorism remain serious potential security threats, internal conflict represents the most lethal and actual security threat of our time. Since the fall of the Berlin Wall, more people – some estimates put the total as high as 5 million – have died from internal conflict than from international terrorism and interstate wars combined. Far greater casualties could result from a second generation of failed states, particularly in more populous societies.

Anticipating and assessing such conflict is highly complex. It requires extensive knowledge of the societies at risk, as well as the ruling elites, history, culture, demography and economy. Also critical is an understanding of the specific social groups in those societies and their political relationships to each other and to the state. These factors cannot be analyzed by quantitative techniques alone. Another complexity is the fluidity of group identity in such disputes. All individuals hold multiple social identities. Each becomes relevant for different purposes in different situations. Shifting identities is not uncommon in conflict that target civilians.

The development of better diagnostic and analytical tools for early warning and policy assessment is needed, both to prevent military intervention, if possible, and to improve preparation, when necessary. Thus far, such methodologies remain elusive. Existing works tend to be too general, lack policy-relevance, verify the obvious or are of limited practical utility. Studies that rely exclusively on quantitative techniques fail to capture key variables that are not subject to statistical verification. They often oversimplify complex situations, lack the texture of “ground truth” in countries at risk, and do not provide an overall analytical framework. Some have argued that we already

have adequate early warning from humanitarian workers, human rights organizations, diplomats and international organizations. However, these are actually late warnings that usually sound the alarm after the fire has broken out, when it is often too late to put out the blaze. Early warning should alert
5 the international community before the combustion actively ignites, in sufficient time to respond to and prevent it, hopefully without military intervention.

Furthermore, while the international community has devoted significant attention to post-conflict strategies and the definition of missions
10 for military intervention, it still lacks adequate tools to enable analysts to track a conflict over time – before, during and after violence – so that policy makers can provide continuity in an integrated response over the duration of the conflict and its resolution.

The present invention addresses some of these needs. It presents a
15 methodology to better anticipate, analyze and assess a country at risk as it teeters between war and peace. It can be utilized by multinational organizations, such as NATO, international organizations, such as the UN or World Bank, individual state governments, intelligence analysts, scholars and researchers. The present invention should not be construed as a paradigm for
20 all conflicts (such as revolutionary, ideological or territorial wars), although elements could be adapted and applied to conflicts involving states with homogenous populations. Neither should the present invention be seen as a prescription for specific policies, a formula for predicting international humanitarian responses, or a mechanism for addressing questions of political
25 will or national interest. The present invention may strengthen the capacity of

the international community to anticipate and respond more effectively to impending catastrophes. At the very least, leaders will not be able to say that they did not fully appreciate what was happening.

SUMMARY OF THE INVENTION

5 The foregoing needs have been satisfied to a great extent by the present invention wherein, in one aspect of the invention, a Conflict Assessment System Tool (CAST) has been designed to serve as a conflict early warning and recovery assessment system. CAST uses the technologies of relational database theory and fourth generation languages to help create an off-the-shelf,
10 user-friendly and practical tool for international decision makers involved in conflict risk assessments and policy responses.

CAST uses a comprehensive analytical model to anticipate impending conflicts worldwide. In developing CAST, the most sophisticated information technologies available was used, integrating video and/or audio clips, digital
15 photos, documents, and other data sources into its interactive, user-friendly interface. CAST processes data from multiple sources, organizes it, and creates graphic displays that identify major social, political/military, and economic trends that track the increase or reduction of conflict. It also creates a standard database methodology for collecting, sorting, and analyzing
20 information relevant to internal conflicts around the world. Software-based products provide a comparative advantage by assuring a foundation of analytical information that is easily accessible, simple to update, and that can be used to produce any number of products over time. CAST may also be customized to incorporate both open-source and privileged data. More than
25 just a number-crunching software program, CAST produces precise and

reliable analysis on conflict, providing policy-makers with information they can use.

CAST software provides the additional benefit of allowing the client to access and update information, and produce independent, customizable reports from an integrated software platform on a daily, weekly, or monthly basis. CAST data may also include additional audio/video information that can be incorporated into news clips, documentaries, and other integrated visual presentations for use by the client. CAST software is compatible with Windows™, Mac OS-10™ and Linux™ systems. It can be available on CD-ROM, can be integrated into a LAN or WAN system, or be web-enabled.

CAST utilizes the following key client features: ability to automatically document, measure, and evaluate the intensity of key indicators of conflict; ability to compare conflicts, and assess the factors that contribute to violence over different historical periods; ability to test and verify the estimates of prominent state and international factors on the risk of conflict and the assessment of recovery from conflict; ability to identify and assess the critical social, economic, or political factors that most often contribute to conflict; ability to graph trends and track the risk of violent conflict and post-conflict recovery; and ability to assess the effectiveness of intervention strategies and the extent to which they contribute to sustainable security.

Furthermore, CAST utilizes the following key technical features: SQL-92 compliance; built-in query and report generator with pre-defined formatted reports; able to organize, store, retrieve, and display hundreds of facts and information about specific countries in both narrative and graphical form; able to handle billions of records containing up to 64,000 bits of

information each; able to store any type of data from documents, radio broadcasts, television interviews, maps, graphics, and all web media; able to be a web portal; able to work as a stand-alone desktop application or on a server able to handle hundreds of clients; able to export/import data to over a
5 hundred data formats; and able to allow key word indexing and searching.

In addition, CAST utilizes the following twelve top indicators of internal conflict and state collapse: (1) mounting demographic pressures; (2) massive movement of refugees or internally displaced persons creating complex humanitarian emergencies; (3) legacy of vengeance-seeking group
10 grievance or group paranoia; (4) chronic and sustained human flight; (5) uneven economic development along group lines; (6) sharp and/or severe economic decline; (7) criminalization and/or deligitimization of the state; (8) progressive deterioration of public services; (9) suspension or arbitrary application of the rule of law and widespread violation of human rights; (10)
15 security apparatus operates as a “state within a state”; (11) rise of factionalized elites; and (12) intervention of other states or external political actors.

A method of conflict assessment is yet another aspect of the invention, in which a user selects a country and time frame to analyze. Next, CAST receives this data input and then determines if the internal database contains
20 enough information to perform a base assessment of the selected country. CAST then analyzes the data to measure the 12 indicators of conflict mentioned above and to ascertain the relative levels of these indicators in order to determine the selected country’s level of conflict. CAST next compares the present state of each indicator and the cumulative value of the indicators
25 against past assessments to determine changes in the state of conflict and the

differences among the contributing factors. CAST finally determines and prepares outputs or reports such as warnings or alerts, conflict assessments, and policy options.

There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood, and in order that the present contribution to the art may be better appreciated. There are, of course, additional features of the invention that will be described below and which will form the subject matter of the claims appended hereto.

In this respect, before explaining at least one embodiment of the invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and to the arrangements of the components set forth in the following description or illustrated in the drawings. The invention is capable of other embodiments and of being practiced and carried out in various ways. Also, it is to be understood that the phraseology and terminology employed herein, as well as the abstract, are for the purpose of description and should not be regarded as limiting.

As such, those skilled in the art will appreciate that the conception upon which this disclosure is based may readily be utilized as a basis for the designing of other structures, methods and systems for carrying out the several purposes of the present invention. It is important, therefore, that the claims be regarded as including such equivalent constructions insofar as they do not depart from the spirit and scope of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 illustrates a flowchart of a preferred embodiment of the present invention.

FIG. 2 illustrates a detailed flowchart of the information gathering
5 portion at reference numeral 100 in FIG. 1.

FIG. 3 illustrates a detailed flowchart of the indicator analysis portion at reference numeral 600 in FIG. 1.

FIG. 4 illustrates a detailed flowchart of the factored reasoning portion at reference numeral 700 in FIG. 1.

10 FIG. 5 shows a block diagram of a preferred embodiment of the present invention indicating the conceptual framework for analyzing internal conflict.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

15 Referring to FIG. 1, the CAST process **30** is implemented through a computer program written in any language suitable for technologies of relational database theory and fourth generation languages. In the preferred embodiment, the CAST process **30** is written in any programming language which can be compatible with WindowsTM, Mac OS-10TM and LinuxTM
20 systems. The CAST process **30** will operate on any computer system (not shown) which has the capability to with the following minimum requirements: 486 or higher processor; Microsoft WindowsTM 95/98/2000 or Microsoft WindowsTM NT; 64MB RAM; 100 MB disk space; and CD-ROM drive. In the preferred embodiment the CAST process **30** under the Microsoft
25 WindowsTM 98 operating system.

The CAST process **30** may be conveyed to a computer system on any media from which the computer system is capable of meeting the above minimum requirements, and the results of the CAST process **30** may be recorded on any medium upon which the computer system is capable of
5 recording.

In the preferred embodiment, the CAST process **30** is “manufactured” onto an industry-standard CD-ROM (not shown) which may be stored for an indefinite amount of time until it is needed. In the preferred embodiment, operation of the CAST process **30** is initiated by loading the CD-ROM onto
10 the computer system in a standard manner. The CAST process **30** then begins by the user selecting a country and the time period of interest to analyze **5**.

The CAST **30** determines if the internal database contains enough information to do a base assessment of the selected country. The CAST system determines the quality, quantity, and age of the data by utilizing an
15 information gathering step **100**. Referring to FIG. 2, this information gathering step **100** searches database files for existing information in the following nine categories: (1) Government; (2) People; (3) Economy; (4) Geography; (5) Communication/Transportation; (6) Military; (7) Health; (8) Domestic Security; and (9) International **102**. CAST **30** then questions if this
20 categorical data exists **104**. If this categorical information does not exist, CAST **30** will search and compile all predetermined online information sources for data (*e.g.*, the web sites of World Bank: Aid Effectiveness Research; Human Rights Watch; Integrated Regional Information Networks; or Amnesty International). CAST **30** will instruct the user if the searches did
25 not find recent or complete information in a particular category **106**. If the

categorical information does exist or is found, CAST **30** will determine if the information is reliable. CAST **30** corroborates the information, determines a computational relationship, determines source reliability ratings, and identifies any informational holes **108**.

5 *Corroborate Information*

Step **110** of CAST **30** will perform text searches and compare the number of different sources reporting the same information. Each bit of information will have a corroboration rate which is a computation of the number of sources, computational relationship rate, and the source reliability rating of the source **110**.

Determine Source Reliability Rating

Step **112** of CAST **30** will keep a running reliability rating of all information sources. CAST **30** will determine the reliability by applying a computation of the differences in information from the source compared to the same category of information reported from a core of five world sources that include the CIA, NY Times, CNN, BBC, and NPR

Determine Computational Relationship

Step **114** of CAST **30** contains theories of relationships between information about a selected country. When new information is gathered, CAST **30** will compare the information against the relationships that should be there if the information is accurate.

Identify Information Holes

Step **116** of CAST **30** will determine if any of the 9 categories of information needed to have a complete country file is incomplete. Each category has a list of facts that comprise the category. CAST **30** weights the

information based on a determination of the influence of the information on the whole category. CAST **30** will measure the new information to determine if the category has sufficient weighted information in each category.

Next, CAST **30** asks if the information is reliable **118**. If the answer is no, then CAST **30** will instruct the user to search non-online sources for more information and also to increase the number of online sources to search **120**. If the answer is yes, then the information gathering process is complete **122** and the process continues to the next step **200**.

Step **200** asks if CAST **30** has all the necessary information. If the answer is no, then CAST **30** requests further information. The system allows the user to choose manual data input or for the CAST **30** to access Internet sources for additional data **400**. If the answer is yes, then the CAST **30** analyzes the data used to measure the 12 indicators of conflict mentioned above **300**. Once either Step **300** or **400** is completed, CAST **30** searches the Internet for up to the moment information that could effect analysis **500**.

Now, the indicator analysis **600** analyzes all the data that determines the level of the 12 indicators. Based on the significance of each indicator per the country selected, the CAST **30** determines the relative level of conflict. Indicator analysis **600** determines the 12 indicator values **601**. Referring to FIG. 3, when the CAST **30** information gathering steps **100-500** are complete, CAST **30** takes that information to determine the individual country indicator values. The 12 indicators get ranked from zero to ten **602**. CAST **30** is pre-programmed with suggested factors (measures) that an analyst can use to assess the 12 indicators. Each factor is assigned a level of maintenance (LOM)

and a value of significance (VOS). The LOM is the highest point at which that specific factor can go before the fact should be a concern to policy makers. The value of VOS is important in determining the value of the indicator. The LOM is determined by a group of independent country experts. CAST 30 uses the comparison between the actual factor value against the LOM to assign an appropriate rating. CAST 30 uses the degree of the delta from the LOM to assign a value from one to ten given the LOM equals the highest point of the stable range for the factor. CAST 30 calls this value the level of maintenance multiplied result (LOMMR). CAST 30 multiplies the LOMMR times the VOS divided by the number of factors chosen to determine the individual indicator value.

Step 604 asks has there been any Surprises, Triggers, Idiosyncrasies, National Temperament, and Spoilers (STINGS) or anomalies. If the answer is yes, then the CAST 30 determines, based on the STINGS, how to apply the information to the rating process 606. STINGS can range from sudden currency collapse and recent assassinations to any sudden environmental catastrophe. The STINGS can alter the individual indicator rating or all the ratings. If the answer is no, then all indicators are rated 608. CAST 30 is pre-programmed with the particular incidences that should comprise the STINGS for each selected country. Again, some examples of STINGS are presidential assassinations, massive flooding, massive outbreak of a deadly disease, and currency collapse. The STINGS also include a country's national temperament and history of violence or a country's ability to absorb economic and political disaster without a de-stabilization of the State. Country experts determine and assess the significance of the STINGS for their particular State.

The country experts also determine which factors and indicators should be affected by the STINGS (SF). The SF is a value between zero and five. If a STING occurs, CAST **30** will add the pre-programmed SF to the factor associated with the STING.

5 Determine Indicator Weights

CAST **30** analyzes the indicators to determine the relative influence each indicator has on a selected country's movement towards or from conflict **610**. The analysis is both general and country specific. CAST **30** monitors the changes in the data that contributes to the indicators in an effort to measure those changes compared to the selected country's overall conflict status. If CAST **30** determines a correlation, CAST **30** will alter the indicator weight in a relation to the correlation. CAST **30** uses the equation:

$$(\text{LOMMR} + \text{SF})/\text{No. of Factors Selected} * \text{VOS}/\text{No. of Factors Selected}$$

15 This equation determines the final value of the individual indicators. Once the indicator values are determined, CAST **30** will multiply the indicator by the indicator weights (IW). The IW is a pre-programmed factor determined by country experts. The IW is a percentage from zero to 100. The IW's must add up to 100. CAST **30** will multiply the indicator by 1.5 times the number of
20 standard deviations from the median. The indicator analysis **600** ends with all indicators rated and weighted **612**.

Next, the factored reasoning step **700** compares the present state of each indicator and the indicators' cumulative value against past CAST **30** conflict assessments. The CAST **30** determines the rate of change in the state of conflict and the differences in the contributing indicators.

Referring to FIG. 4, starting with the composite value of the indicators from step **612**, CAST **30** will place the composite value onto the historical graph of previous conflict assessments **702**. Then, CAST **30** determines the delta of the composite indicator value and the delta of each indicator value from the last assessment. Cast also determines the delta from the average of the past indicator values **704**. Based on the indicator deltas, CAST **30** will determine if automatic “Alerts” or “Warnings” should be issued. CAST **30** sends the “Alerts” and “Warnings” based on the agreed upon arrangements with clients **706**.

Now, CAST **30** uses the composite indicator values and the delta information to place the selected country conflict assessment into the conflict assessment framework (see FIG. 5). CAST **30** places the current assessment among the five stages of the conflict assessment framework: Stage 1: Root Causes; Stage 2: Immediate Causes; Stage 3: Transition; Stage 4: Transformation of State; and Stage 5: Outcome. Stages 3 through 5 have both violent and non-violent tracks. CAST **30** determines the state and the track where the assessment should be placed **708**. The selected country assessment is now complete **710**.

Referring to again FIG. 5, the conflict assessment framework comprises the five stages mentioned above. Stage 1 can include societies with a predisposition for internal conflict **10**. The international community can use this stage as a prediction of early warning. Stage 2 can include events and trends that fuel internal conflict **12**. The international community can use this stage to initiate preventive diplomacy. Stage 3 can include a violent path of full scale conflict, secession, ethnic cleansing, and disintegration of the State

14 or a non-violent path of negotiations, State reforms, and power sharing 16.
This is a point of decision 26 as to what path will ensue. At times there can be
transition between these paths. The international community can use this stage
to start peace enforcement or peacemaking efforts. Stage 4 can include also a
5 violent path of military victory, ethnic domination, warlordism, and
fragmentation 18 or a non-violent path of elections, peaceful partition, conflict
resolution mechanisms, refugee resettlement, building new State structures 20
(e.g., civil services, police, military, judiciary). There can be transitions
between paths back to Stage 3 of violence and non-violence. The international
10 community can use this stage to begin peacekeeping or peacebuilding efforts.
Finally, stage 5 can be a continuum of chaos 22 or constitutionalism 24. The
international community can use this stage of initiate post-conflict assistance
or economic and political integration.

The CAST 30 determines and prepares outputs such as Alerts, Conflict
15 Assessments, and Policy Options 800. These Alerts, Conflict Assessments,
and Policy Options are printed out 900 before CAST 30 ends 50.

The above description and drawings are only illustrative of preferred
embodiments which achieve the objects, features, and advantages of the
present invention, and it is not intended that the present invention be limited
20 thereto. Any modification of the present invention which comes within the
spirit and scope of the following claims is considered to be part of the present
invention.